# Task 3

For this task, I selected **HTML, CSS, and JavaScript** to develop a simple **Personal Portfolio Website** as the application. I intentionally introduced coding mistakes such as unclosed tags, duplicate IDs, missing attributes, inline JavaScript, accessibility issues, and semantic errors. I then used **SonarLint**, a static code analysis tool integrated into Visual Studio Code, to review the code for vulnerabilities, syntax issues, and bad coding practices. The tool successfully detected multiple issues, including security hotspots and code smells. Based on the findings, I manually reviewed the code and applied secure coding recommendations like properly closing tags, avoiding inline scripts, adding labels for accessibility, using semantic tags, and preventing duplicate IDs. This exercise helped me understand how code analyzers assist in identifying vulnerabilities and how secure coding practices improve the overall quality, maintainability, and security of web applications.

**Index.html**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>My Portfolio</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>

<header>
    <h1 id="main-heading">Welcome to My Portfolio</h1>
    <nav>
        <ul>
            <li><a href="index.html" id="nav-link">Home</a></li>
            <li><a href="about.html" id="nav-link">About</a></li>
            <li><a href="projects.html" id="nav-link">Projects</a></li>
            <li><a href="skills.html" id="nav-link">Skills</a></li>
            <li><a href="contact.html" id="nav-link">Contact</a></li>
        </ul>
    </nav>
</header>

<main>
    <h2 style="font-weight:bold;">Hello, I'm John!</h2>
    <p>I am a web developer passionate about creating websites.</p>
    <img src="profile.jpg">
</main>

<footer>
    <p>© 2025 My Portfolio</p>
</footer>
```

```
</body>
</html>
```

**Sonarlint found Error in this line**

```
<img src="profile.jpg">
```

```
∨  <> index.html  ❶
      ⚠ Add an "alt" attribute to this image.  sonarqube(Web:ImgWithoutAltCheck)  [Ln 26, Col 5]
```

**Updated code for this line will be**

```
<img src="profile.jpg" alt="Profile picture of him">
```

**about.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>About Me<title>
    <link rel="stylesheet" href="style.css">
</head>

<body>

<header>
    <h1 id="header-title">About Me</h1>
</header>

<main>
    <h2 style="color:blue" My Background></h2>    <p>I started coding since
school days and love it.
</main>

<footer>
    <p>© 2025 My Portfolio</footer>
</body>
</html>
```

**Sonarlint found Error in this line**

```
    <h2 style="color:blue" My Background></h2>
```

**Updated code for this line will be**

```
    <h2 style="color:blue" My Background>Harshil Hirpara</h2>
```